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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

RSWIPLAW@us.ibm.com

Office Action Summary

Application No.

10/599,063

Applicant(s)

MISONO ET AL.

Examiner

CAMQUY TRUONG

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 19 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/06)
Paper No(s)/Mail Date 5/24/2007, 9/19/2006
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-16 are pending and they are presented for examination.

Specification

The disclosure is objected to because of the following informalities: typographical error, for example, page 1, in the "TECHNICAL FIELD" section, line 1, "The present invention on relate to grid computing and, in particular". The "BACKGROUND ART", "PROBLEMS TO BE SOLVED BY THE INVENTION", "MEANS FOR SOLVING THE PROBLEMS", "ADVANTAGES OF THE INVENTION", "BRIEF DESCRIPTION OF THE DRAWINGS", and "BEST MODE FOR CARRYING OUT THE INVENTION" sections are objected for the same reason above. Appropriate correction is required.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 4, discloses "the agent sections send the request received from the scheduler section to at least some of the process servers in response to polling accesses from the process servers, and the agent sections send the request received from the scheduler section to at least some of the other process servers at timing managed by the agent sections".

Claim 8, discloses "at least some of the agent sections provide a request for execution of the job to the computers constituting the system in response to polling accesses from the computers and at least some of the other agent sections provide a

request for execution of the job to the computers at timing managed by the agent sections".

Claim 11, discloses "the agent section sends a request for execution of a job issued by the scheduler section to at least some of the computers in response to polling accesses from the computers, and sends a request for execution of a job issued by the scheduler section to at least some of the other computers at timing managed by the agent section".

Claim 15, discloses "send the request to at least some of process servers in response to polling accesses from the process servers, and send the request to at least some of the other process servers at timing managed by the computer".

Appropriate correction is required.

Claim Objections

2. Claims 1 and 4-16 are objected because of the following informalities:

Claim 1, line 4, the limitation of "the computers" should be rewritten as "the plurality of computers".

Claim 1, line 6, the limitation of "a process server" should be rewritten as "a process server, which is one of the plurality of computers" (see specification, page 4, lines 4-7. Examiner will be considered as such for examination purpose); line 6, the limitation of "a job" should be rewritten as "the job"; line 9, the limitation of "a job" should be rewritten as "the job"; line 12, the limitation of "the request" should be rewritten as "the job execution request"; line 13, the limitation

of " the request" should be rewritten as "the job execution request"; and line 14, the limitation of " the status" is lack of antecedent basic. Appropriate correction is required.

Claim 4, line 2, the limitation "the request" should be rewritten as "the job execution request"; lines 1-2, the limitation "the agent sections" should be rewritten as "the agent section" (referring back to "an agent section" in claim 1, line 11. Examiner will be considered as such for examination purpose); line 4, the limitation "the agent sections" should be rewritten as "the agent section" (referring back to "an agent section in claim 1, line 11. Examiner will be considered as such for examination purpose); lines 3-6, the limitation of "the process servers" and "the other process servers" are lack of antecedent basic. Appropriate correction is required.

Claim 5, lines 1-2, the following terms are lack of antecedent basic: "the process servers"; line 4, the limitation "the agent sections" should be rewritten as "the agent section" (referring back to "an agent section" in claim 1, line 11. Examiner will be considered as such for examination purpose). Appropriate correction is required.

Claim 6, line 3, the limitation "a job" should be rewritten as "a job of the jobs"; line 4, the limitation of "the system" should be rewritten as "the grid computing system"; line 10, the limitation of " the status" is lack of antecedent basic. Appropriate correction is required.

Claim 7, line 3, the limitation of "a request" should be rewritten as "the request"; line 2, the limitation of "the system" should be rewritten as "the gird computing system". Appropriate correction is required.

Claim 8, lines 1-2, the limitation "at least some of the agent sections" should be rewritten as "the agent section" (referring back to "the agent section" in claim 7. Examiner will be considered as such for examination purpose); line 2, the limitation "a request" should be rewritten as "the request"; line 3, the limitation of " the system" should be rewritten as "the gird computing system"; line 5, the limitation "a request" should be rewritten as "the request"; line 4, the limitation of " at least some of the other agent sections" should be rewritten as "the agent section" (referring back to "the agent section" in claim 7. Examiner will be considered as such for examination purpose). Appropriate correction is required.

Claim 9, line 3, the limitation of "the capacity" should be rewritten as "capacity"; line 4, the limitation of "the system" should be rewritten as "the gird computing system"; line 7, the limitation of " a schedulersectionwhichassigns" should be rewritten as "a scheduler section which assigns"; line 8, the limitation of "a job" should be rewritten as "the job of the jobs". Appropriate correction is required.

Claim 10, line 2, the limitation of "the system" should be rewritten as "the gird computing system"; line 3, the limitation of "a job" should be rewritten as "the job"; line 3, the limitation of "an agent section" should be rewritten as "the agent

section"; line 4, the limitation of "a computer" should be rewritten as "the computer". Appropriate correction is required.

Claim 11, line 2, line 3, the limitation of " a request" should be rewritten as "the request"; line 6, the limitation of "a job" should be rewritten as "the job". Appropriate correction is required.

Claim 11, lines 7-10, the following terms are lack of antecedent basic: "the computers" and "the other computers". Appropriate correction is required.

Claim 12, line 4, the limitation of "a job" should be rewritten as "a job of the jobs"; line 4, the limitation " the basic of the capacity" should be rewritten as "a basic of a capacity"; line 5, the limitation of "the system" should be rewritten as "the gird computing system"; line 10, the limitation of "thecomputerholding temporarily the issued jobexecutionrequest" should be rewritten as "the computer holding temporarily the issued job execution request"; lines 12-13, the limitation of "the operating status" is lack of antecedent basic. Appropriate correction is required.

Claim 13, line 1, line 6, the limitation of "a job" should be rewritten as "the job"; lines 7-8, the limitation of "the basisofinformationabouttheprocessserverandissuinga jobexecution request" should be rewritten as "the basis of information about the process server and issuing a job execution request"; line 9, the limitation "the issued request" should be rewritten as "the job execution request"; line 9, the limitation "the request"

should be rewritten as "a request"; line 11, the limitation of "the operating status" is lack of antecedent basic. Appropriate correction is required.

Claim 14, line 1, line 2, the limitation of "a job execution request" should be rewritten as "the job execution request"; line 2, the limitation of "toassign" should be rewritten as "to assign". Appropriate correction is required.

Claim 15, line 1, the limitation of "Theporgramaccording to claim13" should be rewritten as "The program according to claim 13". Appropriate correction is required.

Claim 16, line 1, the limitation of "Theporgramaccording to claim13" should be rewritten as "The program according to claim 13". Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 6-11 and 13-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 6 and 9 are rejected under 35 U.S.C. 101 because the claimed invention are directed to a server for scheduling job and requesting execution of the jobs, but appearing to be comprised of **software alone** without claiming associated computer hardware required for execution. First, claim 1 recited a server, which according to

MPEP 2111 the examiner is obliged to give terms and/or phrases their broadest reasonable interpretation awarded by the person of ordinary skill in the art unless applicant has provided some indication of a new definition, thus the phrase "server" will be interpret as a software program. Second, the server as recited in claim 1 comprising a scheduler section, an agent section which all are software modules. Thus, based the explanation from the first and second, it is clearly shown that the server as recited in claim 1 can be interpreted as a software only. Therefore, the sever comprised of **software alone** without claiming associated computer hardware required for execution as recited in claims 6 and 9 are directed to a non-statutory subject matter.

Claims 7-8 and 10-11 are rejected for failing to cure the deficiency from their respective parent claim by dependency.

Regarding claim 13, examiner interprets the claim by giving its broadest reasonable interpretation as discussed in MPEP 2111. The claim recited "a program for causing a computer to implement the functions of "The program product can be interpreted to include software program or a computer storage medium having stored therein program codes. Thus the computer program product recited in claim 13 is a software program without claiming associated computer hardware required for storing and execution the program product. Thus, the program product when it is not executed a particular machine or when it is not stored on any computer-storage medium executed by the machine, it is directed to a software only invention, which is directed to a non-

statutory subject matter. Hence, claim 13 is rejected under 35 U.S.C. 101 because it is directed to non-statutory subject matter.

Claims 14-16 are rejected for failing to cure the deficiency from their respective parent claim by dependency.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1- 3, 6-7, 9-10 and 13 are rejected under 35 U.S.C. 102(b) as being unpatentable by Kisor (U.S. 6,098,091).

5. As to claim 1, Kisor teaches the invention as claimed including: a computer system for performing grid computing with a plurality of computers connected through a network (Fig. 1), the computer system comprising:

a center server (central computer 104, col. 2, line 24; col. 3, line 45) for requesting the computers on the network to execute a job (distributing tasks from a central computer to remote computers over wire area network, col. 2, lines 58-60; col. 3, line 61 – col. 4, line 3); and

a process server (remote computers) for executing a job in response to a request from the center server (task assigned to remote computers to be completed, col. 4, lines 1-2; col. 4, lines 48-50);

wherein the center server comprises:

a scheduler section (the scheduler 228, col. 4, lines 44-45) which assigns a job to be executed to the process server (the scheduler 228 organizes task 232 that need to be completed with the resource available information 224 transmitted by the remote computer 208, col. 4, lines 44-48 / assign assignment tasks to be completed to the appropriate remote computers, col. 4, line 51 —col. 5, line 17; col. 6, lines 16-20) and issues a job execution request (the management program will follow scheduler instructions (job execution request) and will send the assigned task to the remote computer, col. 5, lines 50-52); and

an agent section (management program 144, col. 3, line 61) which manages information about the process server (the management program 144 polls the remote computers 108, 112, 116 and 120 as to times of day when the remotes are available, col. 3, lines 61-67), receives the request issued by the scheduler section, and sends the request to the process server to which the requested job has been assigned (the central computer using the management program will follow scheduler instructions and will send the assigned task to the remote computer, col. 5, lines 50-53; col. 2, lines 24-30), depending on the status of the process server (at a schedule time when the remote computer is available to operate in the contractor relationship, the central computer ...

transfers the instructions and data necessary for the remote computer to complete the task, col. 6, lines 31-35).

6. As to claim 2, Kisor teaches the agent section (management program 144) is provided for each of a plurality of process servers (management program 144 contains instructions executed by the central computer which polls the remote computers 108, 112, 116 and 120, col. 3, lines 61-63).

7. As to claim 3, Kisor teaches the agent section obtains information about the capacity and operating status of the process server corresponding to the agent section from the process server and manages the information (sending to reply indicating available time and computational capabilities of said remote computer, col. 8, lines 4-12; col. 3, line 61 – col. 4, line 3), and the scheduler section assigns the job to the process server on the basis of the information managed by the agent section (the scheduler 228 organizes task 232 that need to be completed with the resource available information 224 transmitted by the remote computer 208, col. 4, lines 44-48 / assign assignment tasks to be completed to the appropriate remote computers, col. 4, line 51 –col. 5, line 17; col. 6, lines 16-20; col. 8, lines 12-16).

8. As to claim 6, it is rejected for the same reason as claim 1 above.

9. As to claim 7, Kisor teaches the agent section is provided for each of computers constituting the system (Fig. 1 shows program 144 is provided for remote computers 108, 112, 115 and 120/ management program 144 contains instructions executed by the central computer which polls the remote computers 108, 112, 116 and 120, col. 3,

lines 61-63) and makes a request for execution of the job by using an individual communication scheme established between the agent section and a corresponding computer (the central computer using the management program will follow scheduler instructions and will send the assigned task to the remote computer, col. 5, lines 50-53).

10. As to claim 9, Kisor teaches a server for scheduling jobs and requesting execution of the jobs in a grid computing system (col. 2, lines 25-30), the server comprising:

an agent section which manages information about the capacity and operating status of a computer constituting the system (the management program 144 polls the remote computers 108, 112, 116 and 120 as to times of day when the remotes are available, col. 3, lines 61-67/ sending to reply indicating available time and computational capabilities of said remote computer, col. 8, lines 4-12), relays communication with the computer and performs transmission and reception according to the operating status of the computer (the management program will follow scheduler instructions and will send the assigned task to the remote computer, col. 5, lines 50-53/ at a schedule time when the remote computer is available to operate in the contractor relationship, the central computer ... transfers the instructions and data necessary for the remote computer to complete the task, col. 6, lines 31-35/ inform the central computer on the completion of the task, col. 6, lines 53-55); and

a scheduler section which assigns, on the basis of the information managed by the agent section, a job to be executed by the computer (the scheduler 228 organizes

task 232 that need to be completed with the resource available information 224 transmitted by the remote computer 208, col. 4, lines 44-48 / assign assignment tasks to be completed to the appropriate remote computers, col. 4, line 51-col. 5, line 17; col. 6, lines 16-20), and requests the computer to which the job has been assigned to execute the job through the agent section (the central computer using the management program will follow scheduler instructions and will send the assigned task to the remote computer, col. 5, lines 50-53).

11. As to claim 10, Kisor teaches the agent section is provided for each of computers constituting the system (Fig. 1 shows program 144 is provided for remote computers 108, 112, 115 and 120/ management program 144 contains instructions executed by the central computer which polls the remote computers 108, 112, 116 and 120, col. 3, lines 61-63), and the scheduler section requests execution of a job through an agent section corresponding to a computer to which the job has been assigned (col. 5, lines 45-53).

12. As to claim 13, Kisor teaches a program for causing a computer to implement the functions of:

storing in recording means and managing information about a process server which constitutes a grid computing system (Fig. 1 shows central computer connects to remote computers) (Fig. 3B shows resource available file 308, col. 4, line 53 – col. 5, line 11) and executes a job (tasks assigned to remote computers to be completed, col. 4, lines 1-2);

assigning a job to be executed to the process server on the basis of information about the process server (the scheduler 228 organizes task 232 that need to be completed with the resource available information 224 transmitted by the remote computer 208, col. 4, lines 44-48 / assign assignment tasks to be completed to the appropriate remote computers, col. 4, line 51-col. 5, line 17; col. 6, lines 16-30) and issuing a job execution request (the management program will follow scheduler instructions (job execution request) and send the assigned task to the remote computer, col. 5, lines 50-53); and

receiving the issued request and sending the request to the process server to which the requested job has been assigned(the central computer using the management program will follow scheduler instructions and will send the assigned task to the remote computer, col. 5, lines 50-53), depending on the operating status of the process server (at a schedule time when the remote computer is available to operate in the contractor relationship, the central computer ... transfers the instructions and data necessary for the remote computer to complete the task, col. 6, lines 31-35).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kisor (U.S. 6,098,091) in view of Aziz et al. (U.S. 6,779,016).

14. As to claim 5, Kisor teaches the agent sections send the request received from the scheduler section to the process servers connected in response to polling accesses from the process servers (the central computer using the management program will follow scheduler instructions and will send the assigned task to the remote computer, col. 5, lines 50-53/col. 2, lines 24-31). However, Kisor does not explicitly teach at least some of the process servers are connected to the center server through a firewall. However, Aziz teaches at least some of the process servers are connected to the center server through a firewall (each of the web servers coupled the load-balancer 112 and load-balancer 112 couple to a firewall, col. 2, lines 14-21; Fig. 1B).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of including at least some of the process servers are connected to the center server through a firewall as disclosed by Aziz into Kisor's system because it would improve the integrity of Kisor's system by protecting the web servers from unauthorized traffic.

15. Claims 4, 8, 11 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kisor (U.S. 6,098,091) in view of Akashi et al. (U.S. 2002/0198924).

16. As to claim 4, Kisor teaches the agent sections send the request received from the scheduler section to at least some of the process servers in response to polling accesses from the process servers (the central computer polls the remote computers as to time of day the remote computers will be available and transmits the task to the assigned remote computers, col. 2, lines 24-30; col. 6, lines 35).

Kisor does not explicitly teach the agent sections send the request received from the scheduler section to at least some of the other process servers at timing managed by the agent sections. However, Akashi teaches the agent sections (cluster node schedulers) send the request received from the scheduler section to at least some of the other process servers at timing managed by the agent sections (immediately before the cluster node schedulers assigning (transferring) each process to each of the processors (220-11 through 220-34)/ each of the processors (220-11 through 220-12, . . . , 220-31 through 220-34) executes an assigned process, paragraphs [0070], [0076], [0110] and [0077]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of sends a request for execution of a job issued by the scheduler section to at least some of the other computers at timing managed by the agent section as disclosed by Akashi into the Kisor's system because these systems are directing to the system that is capable of apportioning tasks among computer connected via wide area networks, and by incorporating the teaching of

Akashi would improve Kisor's system by allowing the system to send request at the timing manage; thereby, improving the performance of the computer system.

17. As to claim 8, Kisor teaches at least some of the agent sections provide a request for execution of the job to the computers constituting the system in response to polling accesses from the computers (the central computer polls the remote computers as to time of day the remote computers will be available and transmits the task to the assigned remote computers, col. 2, lines 24-30).

Akashi teaches at least some of the other agent sections provide a request for execution of the job to the computers at timing managed by the agent sections (immediately before the cluster node schedulers assigning each process to each of the processors (220-11 through 220-34)/ each of the processors (220-11 through 220-12, . . . , 220-31 through 220-34) executes an assigned process, paragraphs [0070], [0076], [0110] and [0077]).

18. As to claim 11, Kisor teaches the scheduler section assigns the job on the basis of information about the capacity of the computer stored in the agent section (Fig. 3B shows resource available file 308, col. 4, lines 53-56/ resource available information 224, col. 4, line 47/ the scheduler 228 organizes task 232 that need to be completed with the resource available information 224 transmitted by the remote computer 208, col. 4, lines 44-48 / assign assignment tasks to be completed to the appropriate remote computers using the resource available table, col. 4, line 51 —col. 5, line 17; col. 6, lines

16-22), and the agent section sends a request for execution of a job issued by the scheduler section to at least some of the computers in response to polling accesses from the computers (the central computer polls the remote computers as to time of day the remote computers will be available and transmits the task to the assigned remote computers, col. 2, lines 24-30).

Kisor does not explicitly teach makes a request for execution of the job regardless of the operating status of the computer to which the job has been assigned and sends a request for execution of a job issued by the scheduler section to at least some of the other computers at timing managed by the agent section. However, Akashi teaches makes a request for execution of the job regardless of the operating status of the computer to which the job has been assigned (the cluster scheduler 250 sends process assignment information about a process, which will be executed in the computer, to each of the cluster node schedulers (240-1 through 240-3), paragraphs, [0076] and [0097]. Examiner interprets the disclosure above as the request for execution of the job regardless of the operating status of the computer to which the job has been assigned), and sends a request for execution of a job issued by the scheduler section to at least some of the other computers at timing managed by the agent (immediately before the cluster node schedulers assigning each process to each of the processors (220-11 through 220-34)/ each of the processors (220-11 through 220-12, . . . , 220-31 through 220-34) executes an assigned process, paragraphs [0070], [0076], [0110] and [0077]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of makes a request for execution of the job regardless of the operating status of the computer to which the job has been assigned and sends a request for execution of a job issued by the scheduler section to at least some of the other computers at timing managed by the agent section as disclosed by Akashi into the Kisor's system because these systems are directing to the system that is capable of apportioning tasks among computer connected via wide area networks, and by incorporating the teaching of Akashi would improve Kisor's system by allowing the system to send request at the timing managed; thereby, improving the performance of the computer system.

19. As to claim 14, Akashi teaches the function of issuing a job execution request causes the computer to assign the job regardless of the operating status of the process server (cluster node characteristic information is held by the cluster scheduler 250, paragraph [0056]/ the cluster scheduler 150 has a function of assigning each process to one of the computers base on characteristic (capacity), paragraphs [0044], [0047], [0072] [0092]. Examiner interprets the disclosure above as the request for execution of the job regardless of the operating status of the computer to which the job has been assigned).

20. As to claim 15, Kisor teaches the function of sending the request to the process server causes the computer to send the request to at least some of process servers in response to polling accesses from the process servers (the central computer polls the remote computers as to time of day the remote computers will be available and transmits the task to the assigned remote computers, col. 2, lines 24-30; col. 3, line 61-col. 4, line 3).

Akashi teaches send the request to at least some of the other process servers at timing managed by the computer (immediately before the cluster node schedulers assigning each process to each of the processors (220-11 through 220-34)/ each of the processors (220-11 through 220-12, . . . , 220-31 through 220-34) executes an assigned process, paragraphs [0070], [0076], [0110] and [0077]).

21. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kisor (U.S. 6,098,091), as applied to claim 13 above, and further in view of Aziz et al. (U.S. 6,779,016).

22. As to claim 16, Kisor teaches the agent sections send the request received from the scheduler section to the process servers connected in response to polling accesses from the process servers (the central computer polls the remote computers as to time of day the remote computers will be available and transmits the task to the assigned remote computers, col. 2, lines 24-31; col. 3, line 61-col. 4, line 3).

Kisor do not explicitly teach at least some of the process servers are connected to the center server through a firewall. However, Aziz teaches at least some of the process servers are connected to the center server through a firewall (each of the web servers coupled the load-balancer 112 and load-balancer 112 couple to a firewall, col. 2, lines 53-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of including at least some of the process servers are connected to the center server through a firewall as disclosed by Aziz into Kisor's system because it would protect the web servers from unauthorized traffic.

23. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akashi et al. (U.S. 2002/0198924) in view of Kisor (U.S. 6,098,091).

24. As to claim 12, Akashi teaches the invention substantially as claimed including: a job execution control method using a computer to schedule jobs and request execution of the jobs in a grid computing system (Fig. 1), comprising the steps of:

the computer (a computer cluster system, paragraph [0040]) assigning a job on the basis of the capacity of a process server constituting the system (Fig. 1), stored in a storage, and executing a job, regardless of the operating status of the process server (cluster node characteristic information is held by the cluster scheduler 250, paragraph

[0056]/ the cluster scheduler 150 has a function of assigning each process to one of the computers basic of the characteristics, paragraphs [0044], [0047], [0072] [0092]. Note that Akashi discloses the characteristics (capacity) is (for example, a ratio of memory access wait time to program execution time, and a memory access size during execution of a program can be used of the computer (paragraph [0013]). Thus, the characteristic information as disclosed by Akashi is not the operating status of computer because the operating status of the computer is interpreted as idle, working or down).

the computer issuing a job execution request to the process server to which the job has been assigned (each of the cluster node schedulers 240-1 through 240-3) assigns each process to each of the processors (220-11 through 220-34) on the basis of the process assignment received, paragraph [0076] / each of the processors (220-11 through 220-12, . . . , 220-31 through 220-34) executes an assigned process, paragraphs [0070], [0076], and [0110]); and

the computer holding temporarily the issued job execution request (the cluster scheduler (250) sends process assignment information about a process to each of the cluster node schedulers (240-1 through 240-3), which hold information about the processes, paragraphs [0060] and [0076]) and sending the job execution requests to the process server to which the job has been assigned (the cluster node scheduler (250) and the cluster node schedulers (240-1 through 240-3) assigns each process to each of the processors (220-11 through 220-34)/ each of the processors (220-11 through 220-12, . . . , 220-31 through 220-34) executes an assigned process, paragraphs [0070], [0076], and [0110]).

Akashi does not explicitly teach sending the job execution requests to the process server to which the job has been assigned, depending on the operating status of the process server. However, Kisor teaches sending the job execution requests to the process server to which the job has been assigned, depending on the operating status of the process server (at a scheduled time when the remote computer is available to operate, the central computer arranges to connect the remote computer and transfers the instruction and data for the remote computer to complete the task, col. 5, lines 45-53; and col. 6, lines 31-48 / the central computer polls the remote computers as to time of day the remote computers will be available and transmits the task to the assigned remote computers, col. 2, lines 24-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of sending the job execution requests to the process server to which the job has been assigned, depending on the operating status of the process server as disclosed by Kisor into the Akashi's system because these systems are directing to the system that is capable of apportioning tasks among computer connected via wide area networks, and by incorporating the teaching of Kisor would improve Akashi's system by dynamic appropriately assigning a task to remote computers in the most efficiently to complete the task (col. 5, lines 45-48).

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Behm et al. (U.S. Patent No. 5,414,845) teaches the management system includes a delivery system for receiving the requests from user nodes to batch nodes.

Armstrong (U.S. Patent 5,542,047) teaches a distributed network monitor system distributes the network monitoring function among each of the nodes of a multiple network system base on the nodes' status.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAMQUY TRUONG whose telephone number is (571)272-3773. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emerson C. Puente can be reached on (571)272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Camquy Truong/

Examiner, Art Unit 2195